

REMARKS

Claims 1-58 are pending in the application. Claims 1, 6-9, 14, 22, 28-32, 34, 39, 46, and 52 have been amended to further define the invention. No new matter was introduced by these amendments.

Rejections under 35 USC 103

Claims 1-58 were rejected as being unpatentable over US Patent 6,890,262 to Oishe et al. in view of International application WO 99/35633 to Frey et al. Applicants respectfully request that this rejection be withdrawn in light of the amendments and arguments contained herein.

The Examiner asserts that Oishe discloses all of the subject matter with the exception of using a view frustum to change a point of view of the video scene. Oishe requires that a marker be placed on the initialized image data to mark a reference point to perform the calculations depicted through Figures 13-20 (see Figure 6, column 6, lines 1-20, and column 7, lines 55-67). Furthermore, Oishe does not store the initial reference image for use to calculate the difference in location with successive frames. Oishe calculates the difference between successive frames and stores these frames in a buffer. Once the buffer capacity is reached, the oldest frame is discarded (see column 10, lines 2-5). Furthermore, Oishe calculates average positions over a group of frames (see Figure 10 and corresponding text for step S202). A filtering process is further applied to average the head position to suppress variation (see column 13, lines 29-33). Here again, once a

buffer size for the average head positions is exceeded, the oldest positions are discarded (see column 13, lines 7-11).

Claims 1, 14, 22, 28, 34, 39, 46, and 52 have been amended to specify that the initial frame of the user's image data is stored and then each successive frame of image data is compared to the initial frame to determine a change of location. Oishe simply does not perform this feature as the oldest frames are discarded due to the averaging calculation used in Oishe. Thus, Oishe calculates the changes based on differences of averages of successive frames, and does not refer to an initial frame as Oishe eventually discards the initial frame. Furthermore, Oishe requires that the initial frame have a reference position marker and a recognized position marker, where the recognized position marker is used during the calculation of the differential image as illustrated in Figures 13-19. Claims 8, 22, 39, and 46 have been amended to specify that the initial image data is marker-less. Frey does nothing to cure the above noted deficiencies of Oishe. Accordingly, claims 1, 14, 22, 28, 34, 39, 46, and 52, and the corresponding dependent claims are allowable for at least the above stated reasons.

The Examiner further asserts that the pyramid diagram in Figure 14 of Frey discloses a view frustum. The pyramid diagram of Frey illustrates a field of view 456 for the camera (see page 35, lines 12-14). Furthermore, the view frustum of the present application refers to the view of the user into the virtual world. What the Examiner refers to as a view frustum in Figure 14, has nothing to do with the user's view and the Applicants respectfully request that the Examiner elaborate how a field of view of a camera into a real world scene discloses a view frustum for a user into a virtual world.

The Examiner also has not provided any analysis of the features of claims 16, 19, or 20. Accordingly, Applicants respectfully request that the examiner specify whether any of the references teach these features. Claims 27, 45, and 58 contain the feature of adjusting a scale associated with the visible volume according to a distance between the head and the view port. Nowhere, is this feature taught by any of the references cited by the Examiner. Accordingly, Applicants respectfully request that the Examiner specify where the references teach adjusting a scale of an image according to the distance the user is from the view port or allow the corresponding subject matter.

In view of the foregoing, Applicants respectfully submit that all of the pending claims are in condition for allowance. A notice of allowance is respectfully requested. In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (408) 774-6921. If any fees are due in connection with the filing of this paper, then the Commissioner is authorized to charge such fees to Deposit Account No. 50-0805 (Order No. SONYP029). A copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
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